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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: McCracken, et al.) Serial No.: 10/007,137
Assignee: Greer Reed Biomedical, LLC) Examiner: Mohandesi, JM
Filed: December 3, 2001) Group Art Unit: 3728
Title: Adjustable Arch Support Orthosis) Docket No.: 26066.02
Including Variably Tensioned Arch
Curve And Method Of Utilizing Orthosis

PRELIMINARY AMENDMENT

Commissioner For Patents
Washington, DC 20231

Dear Sir:

Enclosed please find a Preliminary Amendment to accompany the submittal of three sheets of Drawings (enclosed) in dark ink, relating to the above-identified patent application as requested by the Customer Service Center, Initial Patent Examination Division, in a Notice to File Corrected Application Papers, dated March 18, 2002 (copy enclosed). No new matter is submitted.

Please note that the Confirmation No. 3681, attached to the Notice to File Corrected Application Papers, dated March 18, 2002, had an error for the Filing Fee Received. The Filing Fee submitted with the above referenced application was \$452.00, not \$412, as referenced by the Confirmation No. 3681. A copy of the check dated December 3, 2001, for \$452.00, is attached. Correction is requested to confirm that the Filing Fee Received was \$452.00.

In The Specification

Please delete paragraph 0019, page 10, lines 1 - 27, continuing on page 11, 1 - 6, and insert the following replacement paragraph 0019.

[0019] In order to adjust the tension along the arch curve 130, 130' and to maintain the angle of declination 142 within a preferred range of angles, a means for tensioning 160, 170 is releasably attachable between an anterior bracket 172, and a posterior bracket 178, connected under each surface of the respective anterior arch slope 134 and the posterior arch slope 138. The means for tensioning 160, 170 may include any rotatable 188 or similarly manipulated adjustment means 164, 170 known to those skilled in the art for adjusting the length between two opposed ends connected to the anterior bracket 172 and the posterior bracket 178. Examples of one embodiment of the means for tensioning 160 includes an anterior cable or rod 162 and a posterior cable or rod 166 that are generally rigid in a length dimension, but may be somewhat flexible in a lateral direction. A rotatable means 164 for adjusting the length between the anterior and posterior cable ends includes adjusting devices such as a sleeve nut, worm gear, or a small-sized turnbuckle (not shown). When the user manipulates the means for adjusting 164, either by finger manipulation or by use of a small-sized tool, the anterior cable 162 and posterior cable 166 are retracted in overall length between the cable ends, thereby pulling each respective anterior bracket 172 and posterior bracket 178 toward the means for adjusting 164 with a shortening 152 of the tensioning means 160 (see Fig. 2 and 4a). As tension is placed on each respective anterior bracket 172 and posterior bracket 178 by the shortened tensioning means 160, the bracket connectors 168, 168' draw each respective connected portion of the anterior arch slope 134 and posterior arch slope 138 together, thereby inducing additional tension along the arch curve 130, forming a more rigid arch curve 130, and slightly increasing the height of the arch curve 130, providing firm and generally rigid support of a user's arch. When the means for adjusting is manipulated in a direction to lengthen the tensioning means 160, the length between the ends of anterior cable or rod 162 and

posterior cable or rod 166 is extended due to the push of anterior end 176 against one portion of anterior bracket 172, and extension of tab 192 against a downwards projection of bracket 172, forcing pivoting at an anterior pivot 184. Posterior cable or rod 166 is extended to push against posterior bracket 178 by the push of posterior end 182 against one portion of bracket 178, and extension of tab 194 against a downwardly projection of bracket 178, forcing pivoting at a posterior pivot 186.

Extension of the ends of anterior cable 162 and posterior cable 166, with resulting reduction of the tension along the arch curve, and a slight decrease in the height of the arch curve to a neutral height, while retaining a neutral tension along the arch curve 130.

Preliminary Amendment

Applicant includes a revised paragraph 0019, to insert the element number **188**, on page 10, line 5, to provide agreement with the informal drawings submitted on December 3, 2001, and to provide agreement with the substitute drawings submitted herewith.

If there are any questions, please contact the attorney of record identified below.

Respectfully submitted,



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03-30-2002

Date

Day Tel. 865-584-0105

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PRELIMINARY AMENDMENT
Marked-Up Amendment

In The Specification

Please delete paragraph 0019, page 10, lines 1 - 27, continuing on page 11, 1 - 6, and insert the following replacement paragraph 0019.

[0019] In order to adjust the tension along the arch curve **130**, **130'** and to maintain the angle of declination **142** within a preferred range of angles, a means for tensioning **160**, **170** is releasably attachable between an anterior bracket **172**, and a posterior bracket **178**, connected under each surface of the respective anterior arch slope **134** and the posterior arch slope **138**. The means for tensioning **160**, **170** may include any rotatable **188** or similarly manipulated adjustment means **164**, **170** known to those skilled in the art for adjusting the length between two opposed ends connected to the anterior bracket **172** and the posterior bracket **178**. Examples of one embodiment of the means for tensioning **160** includes an anterior cable or rod **162** and a posterior cable or rod **166** that are generally rigid in a length dimension, but may be somewhat flexible in a lateral direction. A rotatable means **164** for
10 adjusting the length between the anterior and posterior cable ends includes adjusting devices such as a sleeve nut, worm gear, or a small-sized turnbuckle (not shown). When the user manipulates the means for adjusting **164**, either by finger manipulation or by use of a small-sized tool, the anterior cable **162** and posterior cable **166** are retracted in overall length between the cable ends, thereby pulling each respective anterior bracket **172** and posterior bracket **178** toward the means for adjusting **164** with a

15 shortening 152 of the tensioning means 160 (see Fig. 2 and 4a). As tension is placed on each respective
anterior bracket 172 and posterior bracket 178 by the shortened tensioning means 160, the bracket
connectors 168, 168' draw each respective connected portion of the anterior arch slope 134 and
posterior arch slope 138 together, thereby inducing additional tension along the arch curve 130, forming
a more rigid arch curve 130, and slightly increasing the height of the arch curve 130, providing firm and
20 generally rigid support of a user's arch. When the means for adjusting is manipulated in a direction to
lengthen the tensioning means 160, the length between the ends of anterior cable or rod 162 and
posterior cable or rod 166 is extended due to the push of anterior end 176 against one portion of
anterior bracket 172, and extension of tab 192 against a downwards projection of bracket 172, forcing
pivoting at an anterior pivot 184. Posterior cable or rod 166 is extended to push against posterior
25 bracket 178 by the push of posterior end 182 against one portion of bracket 178, and extension of tab
194 against a downwardly projection of bracket 178, forcing pivoting at a posterior pivot 186.
Extension of the ends of anterior cable 162 and posterior cable 166, with resulting reduction of the
tension along the arch curve, and a slight decrease in the height of the arch curve to a neutral height,
while retaining a neutral tension along the arch curve 130.